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CLAIMS:

What is claimed is:

- 1 1. A method of matching a Uniform Resource Locator
2 (URL) to a resource or rule, comprising:
3 progressively hashing a clause of the URL character
4 by character to generate a hash code for the clause;
5 determining if a delimiting character is
6 encountered;
7 using the hash code associated with the clause to
8 traverse a tree data structure representing clauses of
9 URLs and corresponding resources or rules, wherein each
10 node of the tree data structure has an associated
11 multidimensional hash table; and
12 matching the URL to resources or rules based on the
13 traversing of the tree data structure.
- 1 2. The method of claim 1, wherein using the hash code
2 includes calculating a target value based on the hash
3 code and dimensions of a multidimensional hash table
4 associated with a current node in the tree data
5 structure.
- 1 3. The method of claim 2, wherein using the hash code
2 further includes using the target value to identify an
3 entry in the multidimensional hash table corresponding to
4 a subtree associated with the clause.

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1 4. The method of claim 3, wherein traversing the tree
2 data structure includes setting the current node of the
3 tree data structure to be a root node of the subtree
4 associated with the clause.

1 5. The method of claim 2, wherein entries for subtrees
2 in the multidimensional hash table are positioned in the
3 multidimensional hash table using the equation:
4

$$5 \quad T_h \Leftrightarrow \{(h\%X), (h\%Y), (h\%Z)\}$$

6 wherein T_h is a target object in the
7 multidimensional hash table, h is a hash value for a root
8 node of a subtree, and X , Y and Z are dimensions of the
9 multidimensional hash table.

1 6. The method of claim 2, wherein the multidimensional
2 hash table is created by growing the multidimensional
3 hash table such that hash collisions are avoided.

1 7. The method of claim 6, wherein the multidimensional
2 hash table is grown by a total number of dimensions for
3 the multidimensional.

1 8. The method of claim 4, further comprising:
2 searching the current node for target resources or
3 rules; and
4 adding any target resources or rules to a list of
5 matched resources or rules.

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1 9. The method of claim 4, further comprising:
2 determining if there are any child nodes of the
3 current node corresponding to a "wildcard" node; and
4 adding any target resources or rules associated with
5 the "wildcard" node to a list of matched resources or
6 rules.

1 10. The method of claim 1, further comprising:
2 returning a list of matched resources or rules to a
3 calling application.

1 11. A computer program product in a computer readable
2 medium for matching a Uniform Resource Locator (URL) to a
3 resource or rule, comprising:
4 first instructions for progressively hashing a
5 clause of the URL character by character to generate a
6 hash code for the clause;
7 second instructions for determining if a delimiting
8 character is encountered;
9 third instructions for using the hash code
10 associated with the clause to traverse a tree data
11 structure representing clauses of URLs and corresponding
12 resources or rules, wherein each node of the tree data
13 structure has an associated multidimensional hash table;
14 and
15 fourth instructions for matching the URL to
16 resources or rules based on the traversing of the tree
17 data structure.

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1 12. The computer program product of claim 11, wherein
2 the third instructions for using the hash code include
3 instructions for calculating a target value based on the
4 hash code and dimensions of a multidimensional hash table
5 associated with a current node in the tree data
6 structure.

1 13. The computer program product of claim 12, wherein
2 the third instructions for using the hash code further
3 include instructions for using the target value to
4 identify an entry in the multidimensional hash table
5 corresponding to a subtree associated with the clause.

1 14. The computer program product of claim 13, wherein
2 the tree data structure is traversed by setting the
3 current node of the tree data structure to be a root node
4 of the subtree associated with the clause.

1 15. The computer program product of claim 12, wherein
2 entries for subtrees in the multidimensional hash table
3 are positioned in the multidimensional hash table using
4 the equation:

5

$$6 \quad T_h \Leftrightarrow \{ (h \% X), (h \% Y), (h \% Z) \}$$

7

8 wherein T_h is a target object in the
9 multidimensional hash table, h is a hash value for a root
10 node of a subtree, and X , Y and Z are dimensions of the
11 multidimensional hash table.

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1 16. The computer program product of claim 12, wherein
2 the multidimensional hash table is created by growing the
3 multidimensional hash table such that hash collisions are
4 avoided.

1 17. The computer program product of claim 16, wherein
2 the multidimensional hash table is grown by a total
3 number of dimensions for the multidimensional.

1 18. The computer program product of claim 14, further
2 comprising:
3 fifth instructions for searching the current node
4 for target resources or rules; and
5 sixth instructions for adding any target resources
6 or rules to a list of matched resources or rules.

1 19. The computer program product of claim 14, further
2 comprising:
3 fifth instructions for determining if there are any
4 child nodes of the current node corresponding to a
5 "wildcard" node; and
6 sixth instructions for adding any target resources
7 or rules associated with the "wildcard" node to a list of
8 matched resources or rules.

1 20. An apparatus for matching a Uniform Resource Locator
2 (URL) to a resource or rule, comprising:
3 means for progressively hashing a clause of the URL
4 character by character to generate a hash code for the
5 clause;

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6 means for determining if a delimiting character is
7 encountered;

8 means for using the hash code associated with the
9 clause to traverse a tree data structure representing
10 clauses of URLs and corresponding resources or rules,
11 wherein each node of the tree data structure has an
12 associated multidimensional hash table; and

13 means for matching the URL to resources or rules
14 based on the traversing of the tree data structure.